Nova Scotia

ANNUAL REPORT

for the fiscal year
ending March 31, 1991

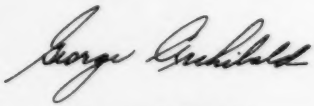
Department of Agriculture and Marketing

His Honour
The Honourable Lloyd R. Crouse, P.C.
Lieutenant-Governor of Nova Scotia

May It Please Your Honour:

I have the honour to submit the annual report of the Department of Agriculture and Marketing for the fiscal year ending March 31, 1991.

Respectfully submitted,



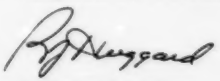
George Archibald
Minister

The Honourable George Archibald
Minister of Agriculture and Marketing
Province of Nova Scotia
Halifax, Nova Scotia

Dear Sir:

I have the honour of presenting the annual report of the Department of Agriculture and Marketing for the fiscal year ending March 31, 1991.

Respectfully submitted,



Richard Huggard
Deputy Minister

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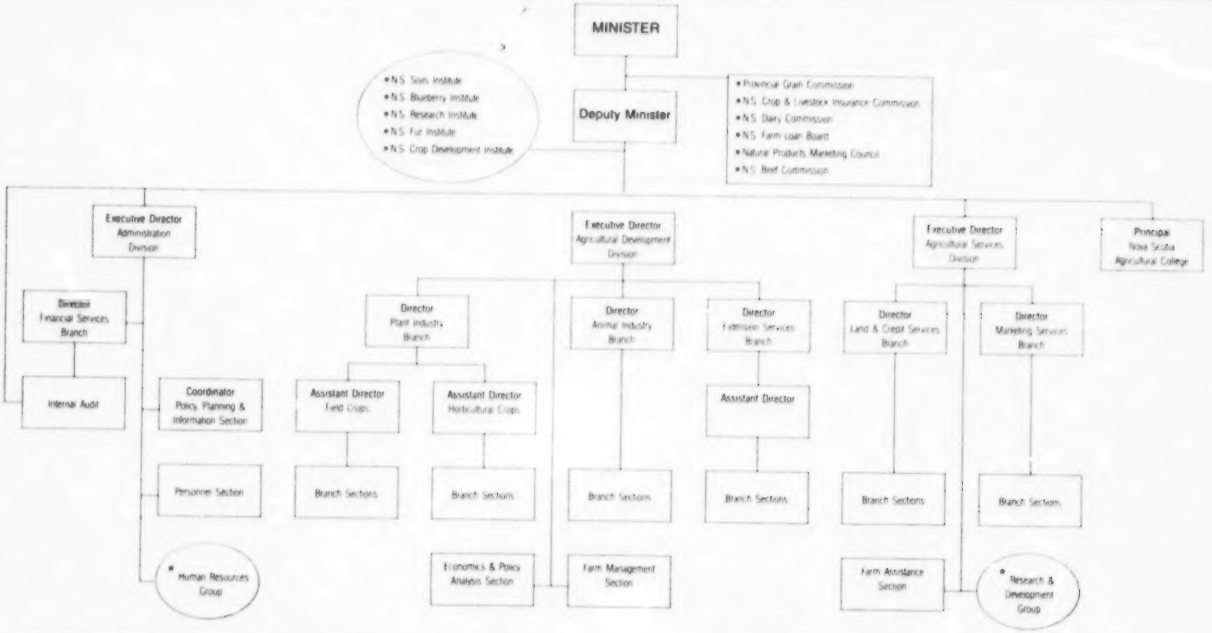

* Not a permanently staffed section of the Department of Agriculture and Marketing

ANIMAL INDUSTRY BRANCH

OVERVIEW

The Animal Industry Branch was created in 1990, replacing the Livestock Services Branch with changes in program responsibilities. The Branch provides services to animal production in four main areas. These include:

1) Expertise in breeding, feeding and management.
2) Rapid and accurate diagnosis of animal diseases, for practising veterinarians and farmers.
3) Implementing regulations for the production, inspection, distribution, and sale of milk.
4) Provincial inspection of red meat abattoirs.

The veterinary staff and laboratory facilities support all branches of the Department of Agriculture and Marketing, and also provide diagnostic services to the Department of Lands and Forests. Laboratory submissions for all species in 1990 were 9,839 specimens. The Livestock Health Services Program assisted 40 veterinarians in 18 clinics during 1990, working under 21 Livestock Health Services Boards. Another program to assist the livestock owners is the Herd Health Assistance Policy. The veterinary sector provides expertise to the large animal, poultry and fur industries.

Two hundred and sixty-five dairy farmers qualified for the 1990 Award of Excellence Program. Thirteen thousand, two hundred and sixty-eight samples were tested on the milko-scan. Ninety-six per cent of milk samples met the minimum bacteriological stand.

RUMINANT LIVESTOCK

The beef industry received lower slaughter cattle prices during 1990. Prices paid at the two 1990 Fall Feeder Sales in Truro averaged 3.7¢ higher than those received in 1989. The Beef Herd Improvement Program helped to provide some economic stability to the beef cow-calf sector of the industry. The Comprehensive Farm Development Program of Canada/Nova Scotia Agri-Food Development Agreement (AFDA) has

encouraged expansion in the cow-calf sector. Also, a Beef Development Program was introduced to assist large beef production units.

The sheep industry in 1990 experienced a difficult year. The check-off for wool was 8¢/lb., 6¢ for the Sheep Producers Association of Nova Scotia and 2¢ for the Nova Scotia Wool Marketing Board. Sheep producers are challenged with high losses from coyotes.

In January 1991, Deer Farm Regulations were approved for Nova Scotia.

The dairy cattle sector represents the largest single segment of the livestock industry. One hundred and ninety four herds participated in the Atlantic Dairy Livestock Improvement Corporation (ADLIC) official test program and one hundred and thirty seven participated in the owner-sampler program. The Nova Scotia Dairy Commission reports 539 producers as of December 31, 1990.

The following are the shipments and utilization percentages of milk from our fluid and industrial shippers:

Total milk shipments	175,707,877 L
Utilized as fluid milk	110,282,691 L — 62.8 per cent
Utilized for other purposes	65,425,196 L — 37.2 per cent
Producers' blend price	
– fluid	$53.82
– industrial	$44.40

The dollar value of milk received by our dairy plants in 1990 was $94.4 million.

NON-RUMINANT LIVESTOCK

The poultry industry segments—egg, chicken, turkey, and pullet—are all under a supply management system. The total cash farm income from the poultry industry is $63,381,000.

The swine industry remains concerned about its low marginal profits. A total of 227,624 hogs were marketed through Pork Nova Scotia, a decrease of 17,901 hogs or 7.3 per cent. The average value per hog marketed was $125.41. This average value is up 12 per cent over 1989.

The average weekly price for 100 index hogs for 1990 was $1.5855 per kilogram or $71.92 per cwt. The gross value of these hogs was $30,142,000.

The fur sector continues to experience low prices. Mink ranches maintain their level of production. The chinchilla sector has seen renewed interest with a number of new entrants. Low pelt prices in the fox sector have resulted in many producers pelting out. There are 115 licensed mink ranchers, 171 licensed fox ranchers and 26 licensed chinchilla ranchers.

BEEF

Production

The following table outlines the total cattle population estimates for January 1991, with previous estimates for comparison purposes:

Nova Scotia Cattle ('000)

	Jan. 91	Jan. 90	Jan. 89	Jan. 88	Jan. 87	Jan. 86	Jan. 85
Bulls	1.6	1.8	1.8	1.9	1.8	1.7	1.7
Milk Cows	31.7	33.3	33.3	33.3	35.6	35.4	36.3
Beef Cows	23.5	22.5	22.5	22.5	26.7	26.6	26.3
Milk Heifers	14.7	15.2	15.2	15.3	14.9	15.0	15.2
Beef Heifers—Replacement	6.4	5.5	5.5	5.5	7.2	7.1	7.1
Beef Heifers—Slaughter	4.5	4.5	4.5	4.5	3.8	3.7	3.6
Steers Over One Year	7.0	7.0	7.0	7.0	11.0	10.5	10.2
Calves Under One Year	29.6	30.2	30.2	30.0	34.0	36.0	36.6
TOTAL	**119.0**	**120.0**	**120.0**	**120.0**	**135.0**	**136.0**	**137.0**

Prices

Slaughter cattle prices declined slightly in 1990. A1, A2 steers averaged $73.15/cwt at the Truro Sale, compared to $74.05/cwt in 1989. During the same period, D1, D2 cows sold at $54.85/cwt, compared to $54.88/cwt in 1989.

In 1990, two feeder cattle sales were held in Truro. The overall average for both sales on the 2,383 cattle was $90.37/lb. which was 3.7¢ higher than in 1989.

Average Price —Truro Feeder Sale

1990	1989	1988	1987	1986	1985	1984	1983	1982
$90.37	$86.67	$88.56	$97.02	$79.08	$74.58	$76.35	$72.05	$67.10

Improved Sire Policy

Assistance was paid on the purchase of bulls during the year as follows:

	1990	1989	1988	1987	1986
Purebred Herd Sires	43	44	42	23	31
Commercial Herd Sires	202	184	198	187	156
Total Assistance Paid	$92,300	$84,200	$89,400	$76,200	$71,800
Value of Bulls	$404,899	$377,961	$377,536	$281,235	$250,593

All bulls must be performance tested, either at home or at the Maritime Beef Cattle Test Station and must meet minimum standards for rate of gain and yearling weight. This policy has helped to reduce time spent on selection and inspection of bulls and has helped to educate producers in the use of performance records and their application to practical breeding programs.

Beef Herd Improvement Policy

The purpose of this program is to improve and develop beef cow herds in Nova Scotia and to provide some economic stability to the beef cow–calf sector of the industry.

	1990	1989	1988	1987
Number of Applications	534	512	503	482
Animals paid on	4,088	3,851	3,695	3,557
Average per application	7.65	7.52	7.34	7.38
Amount of money paid	$654,040	$616,120	$591,200	$569,120
Average per application	$1,224	$1,203	$1,175	$1,181

Performance Testing

The Branch continues to participate in the federal-provincial R.O.P. Beef Program. This program is designed to assist breeders in selecting replacement heifers and herd sires on the basis of rate of gain. It is a very valuable aid in a selection program.

In addition, the Maritime Beef Cattle Test Station continues to operate on a year-round basis at Nappan. Since 1966, 3,369 bulls have been tested at Nappan.

During 1990, 235 bulls were tested at Nappan. About 52 per cent of all bulls tested were from Nova Scotia. Seventy-eight bulls sold in the sale for an average of $2,158, the highest prices ever received at the sale.

The Test Station at Nappan also offers excellent facilities for the Annual Bull Sale held in April of each year.

Community Pastures

Livestock numbers increased on Community Pastures during 1990. No sheep were put on community pastures in 1990 due to coyote problems.

The Cape John Pasture had 590 head of cattle. The cattle did well on pasture with an average daily gain of 2.24 pounds. No disease or management problems were encountered. This was one of the highest performance years for this pasture.

The Cape Mabou Pasture had 609 head of cattle pastured. Cattle performance was good with an average gain of 1.73 pounds per day reported.

The six Co-operative Pastures located at L'Ardoise, Cheticamp, Mira, Glendale, Manchester and Digby were operated under the management of the local co-operatives. Severe coyote problems were reported at Cheticamp, resulting in numerous sheep being killed.

Nova Scotia Beef Commission

In 1990, the Minister appointed a Nova Scotia Beef Commission. Members of the Commission are: Chairman, Rick Williams; Vice-Chairman, Jack Redden; Gordon Carter, Marcel LeVert, Joseph MacKinnon. Tom Nunn was appointed manager of the Beef Commission, with Bruce Pettipas acting as fieldman. The Beef Commission will work on a Beef Development Program for Nova Scotia.

SHEEP

Production

The sheep industry experienced a difficult year in 1990. Both wool and lamb prices were lower than in 1989.

Northumberlamb Marketing Co-op was successful in 1990, marketing 6,103 sheep and lambs. There were 33,500 sheep in Nova Scotia, as recorded on July 1, 1990, a decrease of 2,500 from the previous year.

The Home Test Record of Performance Program provides a mechanism for measuring the performance of animals within the flock. A Flock Health Program, piloted in 1989, has continued. The Sheep Home Study Program was revised.

Prices

Lamb and mutton prices at the Maritime Cattle Market were strong in 1990. The volume offered through the market was approximately 4,462 lambs. The average price was 0.83¢/lb.

The Annual Breeding Stock Sale, sponsored by the Purebred Sheep Breeders' Association, was held Labour Day Weekend—248 head sold for a gross sales over $30,000.

Annual Breeding Stock Sale Summary

	1990		1989		1988	
	No.	Average	No.	Average	No.	Average
Ewe Lambs	39	$135.78	17	$144.12	54	$93.70
Yearlings	39	130.12	42	135.95	36	112.36
Two-year-olds	28	153.00	—	—	—	—
Rams	22	234.22	25	287.64	16	296.88
Mature Ewes	120	89.50	40	124.50	11	111.82

Predator Control

A compensation program administered by the Department of Lands and Forests paid compensation to sheep producers on 580 sheep and lambs killed by coyotes. Coyotes have forced many small producers out of business, and continue to challenge sheep producers on their commitment to stay involved.

Assistance Policies

The Animal Industry Branch supervised three sheep policies in 1990. They were the Improved Sire Policy, Sheep Production Policy and the Sheep Pasture Improvement Policy.

Improved Sire Policy (January 1, 1990–December 31, 1990)

Total Number of Rams Bonused—24 Total Assistance—$2,404.00

Suffolk—8

Dorset—5

North Country Cheviot—3

Hampshire—1

Leicester—2

Canadian Arcott—5

Sheep Production Policy (January 1, 1990–December 31, 1990)

Total Number of Yearlings Bonused—610 Total Assistance—$17,950.00

Number of Producers—23

Sheep Pasture Improvement Policy (January 1, 1990–December 31, 1990)

Approximate Number of Acres Fenced—335 Total Assistance—$14,709.71
Land Cleared (Acres) —10
Number of Producers —29

GOATS

During 1990 a number of shows were held sponsored by the Goat Association. Three commercial dairy goat operations support the commercial dairy in Elmsdale. A cottage goat cheese industry continues in Aylesford. There were a number of 4-H Clubs in the province with dairy goat projects.

DEER FARMING

Interest has grown in deer farming for Nova Scotia. Regulations were developed under the Wildlife Act governing deer farming and the sale of deer products. Red deer, fallow deer, and elk can be farmed. Licenses will be issued in 1991.

DAIRY

Production

Milk production for the year from our fluid farms was 173,620,605 litres, an increase of 1.3 per cent over the previous year.

Dairy cattle numbers on farms shipping fluid milk in 1990 was 28,316. These numbers reflect an average herd size of 53 cows. The number of licensed milk producers recorded on January 1, 1990 was 552. Twenty producers left the industry, seven producers entered the dairy business, leaving a net figure of 539 producers at year end.

Number of Dairy Cows

	Jan. 1/91	Jan. 1/90	Jan. 1/89	Jan. 1/88
Cows for Milk	28,316	29,000	29,000	29,000
Replacement Heifers	12,000	12,000	11,500	11,500
Total	40,316	41,000	40,500	40,500

Dairy Herd Analysis Service

As of December 31, 1990, there were 194 herds on the official test A.D.L.I.C. Program. These 194 herds represent 10,321 cows. One hundred and thirty seven herds participated in the owner-sampler program, representing 6,176 cows.

As of December 31, 1990, the 194 herds completed 12 months on the program and had a rolling herd average of 7,036 kg (15,486 pounds) of milk with 3.64 per cent butterfat test. The owner-sampler herd average in 1990 was 6,812 kg (14,998 pounds), with 3.56 per cent butterfat.

The main thrust of the dairy section is involvement and supervision of the A.D.L.I.C. Program and Dairy Cattle Extension Field Services. It is also involved with breed associations, the Nova Scotia Federation of Agriculture, the Nova Scotia Milk Producers Association, the Canadian Milk Recording Board, Exhibitions, 4-H Clubs, the Holstein Sire Selection Committee and the Nova Scotia Animal Breeders' Cooperative.

POULTRY

Production

The Nova Scotia Poultry industry is broken down into five economic production divisions. They are:

- Egg Production
- Pullet Production
- Broilers
  - Cornish Chicken
  - Light
  - Regular
  - Roasting
- Turkeys
  - Broilers
  - Hens
  - Toms
- Hatchery

In Nova Scotia, there are four registered hatcheries. The egg segment has 38 registered producers who produced 17.5 million dozen eggs. We have 18 commercial pullet producers with a total quota of 698,000 pullets.

Nova Scotian's 70 registered chicken producers grew approximately 19.6 million kilograms (43.1 million pounds eviscerated weight) of chicken. Eighteen registered turkey producers produced 3.27 million kilograms (7.12 million pounds, eviscerated weight) of turkey.

Blood Testing Program

The branch continued an extensive blood testing and vaccination program for exhibition birds. In 1990, there were over 2,500 birds in the 4-H poultry project. The unbanded exhibition birds will continue to be tested for Pullorum.

There were no outbreaks of I.L.T. in 1990.

SWINE

Production

A total of 227,624 hogs were marketed through Pork Nova Scotia. This was a decrease of 17,901 or 7.3 per cent compared to 1989. The average value per hog marketed was $125.41. The average weekly price for 100 index hogs for 1990 was $71.92/cwt. The gross value of these hogs was $30,142,000.

Pork Quality

Nova Scotia has perennially been the leading province in Canada in quality of hogs marketed. The average index of the animals is usually higher than the other provinces. In 1990, the Nova Scotia average index of hogs marketed was 106 (1989—104.9). This was combined with an average dressed weight of 79.1 kg or 174.3 lbs. (1989—176.3 lbs.). The Canadian average index of hogs marketed was 104.3. The Atlantic Provinces' average index was 104.7.

Record of Performance Testing

There continued to be strong support for both home and station testing of swine in 1990. One thousand and fifty-two boars and 4,171 gilts were tested on the Home Testing Program of 1990.

Swine Herd Health Program

There are 91 pork producers enrolled in the Swine Herd Health Program, utilizing the services of eight local veterinarians. This program has improved the overall management and health situation in our swine herds. It is of even greater importance during periods of low pork prices, when top performance is necessary.

Improved Sire Policy for Swine

The quality of hogs marketed in Nova Scotia is in a large measure due to the continued use of the best performance tested boars available. Assistance was paid on a total of 270 boars. Landrace accounted for 63, Yorkshire—67, Hampshire—39, Duroc—25, and Crossbred—76.

Swine Breeding Stock Sales

The dollar value for swine breeding stock increased in 1990. With the importance of good carcass grade, quality stock remained a priority. The value of stock sold through the Nova Scotia Swine Breeding Stock Sales Society was $51,400.

Producer Organizations

Keeping close to the swine industry is important. This is the key to developing policies and programs needed to help the swine sector program. There continues to be a close working relationship with Pork Nova Scotia.

FUR FARMING

The fur sector continued to make a large contribution to the agricultural community in Nova Scotia. The total pelt crop for 1990 was down from 1989. Prices were higher from the previous selling season, but were still below the cost of production.

The chinchilla sector was the exception with increases continuing in producers, breeder females housed, and pelts produced. Prices for pelts still remain high.

Mink Ranching

Mink ranching continues to be the largest section of fur farming in Nova Scotia. There are presently 115 licensed producers with the province, keeping in excess of 72,111 breeder females. Digby County continues to be the stronghold of the mink industry, keeping 78 per cent of the total females in the province.

The total mink kit production in Nova Scotia is approximately 236,171 which is the second highest total in Canada. Ninety-five per cent of Nova Scotia's mink production is Dark Mink.

The main auctions are held at Hudson's Bay, and Seattle Fur Exchange.

The overall pelt average at Canada Mink Breeder sponsored sales to date for 1990 production is $26. This price is $9 per pelt below the cost of production.

The farm gross in the 1990–91 pelting season amounted to approximately $6,140,446. The industry continues to experience difficulty.

Fox Ranching

Fox pelt production continued to decline in 1990, but still maintains the position of the province being the largest producer of foxes in Canada. One hundred and seventy-one licensed producers in the province kept 5,236 breeder females. Approximately 12,259 pelts were produced, generating approximately $487,600 in gross farm receipts.

Silver fox continues to be the predominant fox raised in Nova Scotia. The other types raised are pearl platinum and platinum. The Canadian average for silver fox in 1990 was $40. The 1990 crop is sold plus the carryover from the past two years.

Since its establishment in 1984, the Nova Scotia Fur Institute has been very active in both research and extension. During 1990, research projects were initiated to review the feasibility of the fur sector by staff of the Animal Science Department of the Nova Scotia Agricultural College, in cooperation with the fur section of the Animal Industry Branch.

Chinchilla Ranching

This sector of the fur industry has experienced growth with 26 licensed producers, keeping 1,649 breeders. Pelt prices in 1990 remained high, and encouraged the retention of breeders.

VETERINARY SERVICES

The Veterinary Services Section has responsibilities in the following areas:

- Collaboration with the Food Production and Inspection Branch, Agriculture Canada, in disease control;
- Administration of the Livestock Health Services Program under the Livestock Health Services Act, which provides for the delivery of a uniform-cost, veterinary service to livestock owners in 17 designated "veterinary practice zones";
- Administration of Provincial Meat Inspection Program, under the Meat Inspection (Nova Scotia) Act;

- Provision of veterinary diagnostic service by the operation of an animal pathology laboratory, which processes specimens from all species of animals, and reports findings to livestock producers, to owners of companion animals, and to their veterinarians;
- Administration of the Swine Herd Health Program, which is active in 11 counties, through eight "veterinary practice centres";
- Administration of the Cattle Herd Health Assistance Policy which is available throughout Nova Scotia, through 16 "veterinary practice centres";
- Training of artificial insemination technicians under the provision of the Improvement of Livestock Breeding Section (Part VI Section 72) of the Agriculture and Marketing Act; and,
- Maintenance of a close liaison with other divisions of the Animal Industry Branch, NSDAM; and often collaboration with other branches of the Department, including the Nova Scotia Agricultural College (NSAC), and with other departments of government.

Livestock Health Services Program

This program is carried out under the Livestock Health Services Act in 18 clinics by approximately 40 veterinarians working under 21 Livestock Health Services Boards. The number of veterinarians in large animal practice varied slightly throughout the year and the numbers have gradually increased over the past several years. This program is responsible for the delivery of veterinary service to livestock producers in Nova Scotia. The number of services provided, miles driven and the payments to Livestock Health Services Boards are shown below.

Year	Number of Clinic Calls*	Number of #Farm Calls*	Payments to Miles Driven*	LHS Boards**
1987	1,466	26,565	992,535	$1,304,000(a)
1988	1,471	27,012	1,035,253	1,200,740(b)
1989	1,435	23,649	952,703	1,215,890
1990	1,284	23,648	958,311	1,300,970

* Data from monthly statements that veterinary practice centres submit to LHSB for payment.

** Payments to veterinary practice centres are somewhat less than funds requested by LHSB.

(a) The Cattle Herd Health Assistance Policy was financed from these funds for the period January 1, 1987, to April 30, 1987, inclusive.

(b) The method of reimbursing Livestock Health Services Boards changed, effective April 1, 1988, from a system which provided grants on a quarterly basis to one which reimburses a Livestock Health Services Board for monthly experditures. (Note: It is recommended that each Livestock Health Services Board should maintain a bank account equivalent to two months, average expenses.)

Livestock Herd Health Program

The Livestock Herd Health Program has developed successfully. Five hundred and twenty nine dairy producers and 316 beef herds participated in the Cattle Herd Health Program. Ninety-three herds are enrolled in the Swine Herd Health Program.

Veterinary Pathology Laboratory

The number of laboratory submissions increased to 9,839 submissions. Increased submission did not generate a demand for post-mortem examinations. The bovine chemistry submissions are primarily related to herd profiling and has become an important part of evaluating herd nutritional status.

DAIRY SERVICES

Dairy Services presently does the following:

- Administers Commission Regulations dealing with milk production, manufactured dairy products and grading, packaging and sale of dairy products.
- Works with producers through quality visits and farm inspections to encourage attractive farm facilities and the production of high quality milk.
- Maintains laboratory services for the determination of quality and composition of milk and dairy products including payment and A.D.L.I.C. laboratories.
- Inspects and works with dairies in the processing and distribution of milk and dairy products to ensure the best quality products get to the consumer.
- Trains and licenses bulk milk tank graders and in-plant personnel, lectures students attending the Nova Scotia Agricultural College when required.
- Administers the Cream Hauling Assistance and Production Incentive Policies.
- Administers the Margarine and Imitation Dairy Products Acts.

The Dairy Laboratory tested 13,268 samples on the Milko-Scan, 449 samples for solids no fats analysis. Bacteriological standards for raw milk is now 50,000 per mL; 96 per cent samples met the standards.

In the Farm Inspection Program, 265 producers qualified for the 1990 Award of Excellence. Fifty producers won the award five years in a row.

EXTENSION SERVICES BRANCH

OVERVIEW

The Nova Scotia Department of Agriculture and Marketing was restructured February 1, 1990, and a new Agricultural Development Division was created. In the reorganization the Extension Services Branch became a part of the Agricultural Development Division. The Farm Management Section was moved out of the Extension Services Branch but still remains within this division. The Farm Assistance Section was moved to the Agricultural Services Division. The branch now consists of four sections; Field Services, 4-H and Rural Youth, Home Economics and Extension Engineering.

Staff of the Extension Services Branch continue to play a key role in the development of people and the agricultural industry in this province.

FIELD SERVICES

Introduction

The Agricultural Representative or Field Services Section continues to serve a broad range of rural clientele. Agricultural offices in 14 locations across Nova Scotia provide information and a wide variety of services to farm families, agri-businesses and the general public.

During the year 1990, the section consisted of 12 agricultural representatives, two assistant agricultural representatives, one agricultural fieldsman, 16 clerical and one manager, field services.

County or area agricultural representatives are responsible for:

- providing a front line delivery system
- promoting a viable agricultural industry
- managing a county office
- administrating assistance policies
- providing educational upgrading
- communicating technical information
- leadership in planning and development
- promoting agricultural awareness
- monitoring the agricultural industry

Farm visits, office calls, meetings and tours enable staff to keep in close contact with their clients and provide the counselling, advice and information required for today's agricultural industry.

With this in mind, agricultural representatives increased the number of farm calls made to 5,557 while maintaining office visits to 10,574. Fewer short courses, meetings and tours were held (1,337); however, people attending these events increased to over 32,000.

Staff continue to spend considerable time in the delivery and administration of assistance programs. The main programs are Capital Grants, Soil and Water Management, ALFI and AFDA (Canada/Nova Scotia Agreements).

Special projects include the Nova Scotia Farm Health and Safety Committee; Young Farmer's Conference, which attracted 55 participants to Kings County this year and several agricultural awareness projects.

4-H AND RURAL YOUTH

Two new programs were held in 1990. The first Atlantic Eastern Breeders Incorporated Future Dairymen's Conference was hosted by Nova Scotia 4-H staff in July. The 4-H members from all the Atlantic Provinces brought their own calves to the N.S. Provincial Exhibition Grounds for the three days of intense instruction. This program was initiated by Eastern Breeders Incorporated Atlantic (EBI) and sponsored by EBI and Agriculture Canada. It received an excellent rating from participants.

The second program was the hosting of the week-long Canadian 4-H Council Annual Meetings. These meetings gave Nova Scotia 4-H a chance to present their 4-H program to leaders, corporate directors, and staff from across Canada.

The focus on 4-H theme was prominent at all events.

Nova Scotia 4-H Council

The Nova Scotia 4-H Council met as an executive in January, March, May, July, and October. The annual meeting, held in November, featured two special sessions: one a fund raising proposal and one on the GST.

The Nova Scotia 4-H Council Executive for 1990 included:

President:	Hob MacLeod, Cape Breton Co.
1st Vice President:	Bev Patterson, Hants Co.
2nd Vice President:	Judy Wile, Lunenburg Co.

The council continues to mature and is responsible for the sale of 4-H supplies for promotion.

Nova Scotia 4-H Weekend

The 1990 Nova Scotia 4-H Weekend was held at the N.S.A.C. in Truro from May 11–13. Competitions were held in public speaking, demonstration, posters and decals, woodsman, host and hostess, and square dancing during the weekend. In all, 35 4-H members and leaders were recipients of national and international travel awards, exchanges and scholarships at this event.

Nova Scotia 4-H Show

The 13th Annual 4-H Show was held at the Nova Scotia Provincial Exhibition Grounds in Truro. The show was hosted by the three counties in Central Region. The attendance at this show was double that of 1989, making it an outstanding 4-H promotion. This event was co-chaired by George Dickie, Colchester and Faye Moore, Cumberland. They were assisted by a very able committee.

Other 4-H Programs

Camp Rankin enjoyed full enrollment for one week for Intermediate and four weeks of Junior Camp. The camp director was Jon Davison from Truro who provided excellent leadership to his staff and the campers.

Staff are involved in national, Atlantic and provincial 4-H Committees, leader courses, breed associations, exhibitions, farm health and safety, agricultural awareness, Royal Winter Fair (Hays Classic), preparing newsletters, manuals, media reports and many other duties.

Regionally, 4-H representatives planned and carried out many events. These included a Western Region Chat-A-Rama for intermediate members, a regional workshop for volunteer leaders called "Come West" in Yarmouth, a regional leaders and members workshop for Cape Breton called "If It Is To Be It's Up To Me." The Eastern Region held a

ski day and a public speaking and demonstration workshop. In the Central Region, Camp Clover Conjunction, a senior members camp, was held. Leaders attended a workshop entitled "Making Your Best Better." The Marilyn Naugler Craft workshop is held annually in the South Shore.

4-H Statistics

In 1990, 2,805 members were enrolled in 126 multi-project clubs. The average age of the 1,679 girls and 1,126 boys was 12.3 years. Nine hundred and eighty-five adult leaders manage these clubs; and in 1989 4,062 projects were completed or 85 percent.

These projects consist of 1,457 homemaking, 1,471 livestock, 176 horticulture and 958 others such as woodworking, outdoorsman, photography, etc.

The 4-H audio-visual lending library processed approximately 300 orders in 1990.

HOME ECONOMICS

The Home Economics Section is responsible for:

1) Food education:	a) coordinating a food education program using Nova Scotia foods,
	b) conducting food education programs using Nova Scotia foods,
	c) providing technical information and management advice on food buying, handling, preparation and storage.
2) Agricultural awareness:	a) providing local coordination of agricultural awareness programs,
	b) conducting agricultural awareness programs and activities.
3) Rural organizations:	a) providing leadership to rural organizations,
	b) facilitating group, personal and skill development in rural organizations.

4) Resources:	a) developing resource materials, training packages and courses.

These key result areas provide the working framework in the output expected from the Home Economics Section. The work of the section is carried out on a county, regional and provincial basis by the seven staff. Each regional home economist develops a regional work plan appreciative to the needs of the local area. Over the last year and in the upcoming years, more emphasis has been and will be placed in the agricultural awareness area.

Food Education/Agricultural Awareness

Food education is a very important aspect of the Home Economics Extension program. Weekly newspapers, radio and cable are the key delivery systems for the section's media work and is carried out on a weekly basis all across the province.

The home economics staff assisted in the Taste of Nova Scotia program by developing and testing recipes and conducting train the trainer sessions regionally.

Agricultural Awareness programs are a priority of the Home Ec Section with the five-year plan on agricultural awareness being implemented.

The Cape Breton County team, with funding from McDonalds, allowed the development of the McDonaldland Mini Farm in the agricultural exhibition building during the exhibition. Along with that, Jane Lewis created the Country Farm Jamboree Puppet Show. Currently, the puppet show is visiting schools on Cape Breton Island.

The Nova Scotia Agricultural Awareness Committee is chaired by Susan Horne. Over the year, the committee was able to get a part-time co-ordinator to assist them with their activities. The major event was the Atlantic Winter Fair. Eleven different commodity groups or individuals assisted in an arena program (Dairy Bureau of Canada and Milk Nova Scotia, Pork Nova Scotia, Fruit Growers' Association, Sheep Producers' Association, Turkey Marketing Board, Strawberry Growers' Association of Nova Scotia, Plant Industry Branch, Beekeepers Association, Animal Industry Branch, Nova Scotia Chicken Marketing Board and committee members.) The children could visit each of the 11 exhibits during a two-hour period. Along with that the commodity groups featured a Food

Pursuit Game in the exhibits building. The Country Farm Jamboree Show Puppet Show was there as well. In the dairy barn a special cow display created a lot of interest. This was made available by Milk Nova Scotia, the Agricultural Awareness Committee, and the Atlantic Winter Fair. Approximately 6,000 children visited the fair. Special thanks to all the groups and individuals who helped make this fair program possible.

The Farm Tour Guide has been released to help farmers to conduct schools on their farm. The Educational Resource Guide and the teachers' version of the Farm Tour Guide are nearing completion.

Women's Institutes of Nova Scotia

Women's Institutes have had a particularly challenging year with a change of Executive Directors three times. The membership numbers continue to decline in W.I. This year showed a loss of six branches and 33 members.

Farm Women's Conference

The eleventh conference was held in November. The committee planned this conference to be specifically targeted to farm women who wanted to be more active in their organizations. Rosalie Wysocki was the keynote speaker for the two days and she spoke on personal motivation, goal setting, and positive mental attitudes. In a short period of time, Rosalie had the conference participants sharing success stories, feeling good about their accomplishments, and so on.

Other speakers included Susan Sutherland, of the Fresh For Flavor Foundation, speaking on answering consumers' questions on food safety and Peggy Godfrey who spoke on labour relations. The evening program included a series of how-to workshops. Local lawyer Margaret Dechman from the Women's Directorate and Extension Home Economists, conducted these workshops.

This conference was made available through the AFDA funding agreement, the Home Economics Section, W.I., as well as other agriculture-related groups.

4-H Homemaking

The Crafts n' Creations Workshop was very successful with 85 leaders and senior members in attendance. Technical craft skills and 4-H

project skills were featured in the agenda. The main part of the funding came from the Canadian 4-H Council Technical Knowledge Opportunities program.

Along with that, the foods and heritage manuals were revised and two new level threes were developed in heritage and cake decorating. Also, safety information was developed and incorporated in the foods, sewing and crafts projects.

EXTENSION ENGINEERING

The work of the Extension Engineering Section involves the provision of technical support services for government programs to assist farmers and the agricultural industry in the construction of capital works. These works include all types of farm structures for livestock housing, crop storage and handling, land development works and land protection works. The section is also involved with providing construction and technical services related to farm mechanization, crop processing and storage, as well as, energy conservation and utilization.

For the purposes of this report, the work of the section is reported under two major program areas consisting of Soil and Water and Technical Services to reflect the program areas under the two engineering supervisors.

SOIL AND WATER

Land Improvement

This aspect of the work deals with providing technical and administrative support to the Land Improvement Program. Overall administration is provided by the chief engineer.

This past year was the third year of the Land Improvement Program under a five-year AFDA II agreement. There were no significant changes to the Land Improvement Program which forms Part A of the Soil and Water Management Program, and administratively things went very smoothly.

Part B of the Soil and Water Management Program is made up of three programs; the Main Outlet Drainage Program, and the Cooper-

ative Land Assembly and Development Program. This part of the program is jointly funded by the Province and the Federal Government and is administered by the Soil and Water Implementation Committee. Staff of the section provide the engineering for these programs.

The section is also responsible for the engineering for the Farm Pond Program and for technical consultation and design for irrigation work.

Staff who are responsible for land improvement work made the following calls.

Professional Staff:	392
Technical Staff:	360
Inspection Staff:	1,650

A summary of Land Improvement Program statistics is as follows:

Number of Applications approved	994
Number of Applications rejected	33
Total value of Applications approved	$8,439,225
Grant value of Applications approved	$6,329,419

The following service was provided:

Subsurface drainage surveys	270 acres
Irrigation system plans	5
Grassed waterway layouts	1,800 ft.
Surface ditching profiles	175,850 ft.
Surface ditching layouts	160,395 ft.
Misc. surveys for topos, irrigation, etc.	955 acres

Staff were involved with a major drainage research plot in Cumberland County. Monitoring equipment was installed on the site and data collected from spring through fall. Some analysis has been carried out.

Staff were also involved in a project to evaluate subsoiling both before and after subsurface drainage installation at two sites in the province.

Staff cooperated with ALICA in putting on a major land clearing demonstration in the province in August.

Land Protection

This area of work includes programs related to the operation and maintenance of tidal dyke systems, the operation and maintenance of flood control structures on the Musquodoboit River and Brierly Brook and the construction of main outlet drainage channels.

The land protection work is divided into five geographic regions each with an aboiteau superintendent to oversee and coordinate the work.

Work on the St. Mary's Bay dyke was completed. This brings to an end a three-year project to completely rebuild aboiteaux and dykes on this marsh. This dyke is now in better shape than it has ever been since it was rebuilt by the federal government in the early 1960s.

Generally, the dykes themselves are in good shape and unless exceptionally high tides occur, emphasis will be put on aboiteaux repair rather than on dykes. Rock work will continue to be an ongoing concern as erosion rates can vary greatly from year to year, and in other areas foreshore is gradually getting closer to dyke.

A summary of work undertaken by the land protection staff is as follows:

Aboiteaux constructed/repaired	7
Main outlet drainage surveyed	188,629 ft.
Dyke profile surveys	257,987 ft.
Land forming surveyed	616 acres

TECHNICAL SERVICES

Farm Structures

A significant segment of the extension engineering work is provision of engineering counsel and technical planning and assistance for farm structures. Farm structures include livestock buildings, crop storages, manure storages, material handling facilities, and other miscellaneous structures.

The farm structures work involves more of a team work approach than does some of the other types of engineering work. Engineers must work closely with other specialists in providing plans and counsel to clients.

Although there was considerable demand for engineering design to update and improve present facilities, development of new technology also increased. Many of these new projects were developed in cooperation with various agricultural support programs such as the Capital Grants Program, AFDA, ALFI, Comprehensive Farm Development, and the Beef Development Program.

A new Pesticide Storage Program was introduced this year by the NSDAM. The structure's engineers assisted in the developing of this program and have continued to work closely with the Department of the Environment to promote the development of the ideal on-farm pesticide storage facility.

The following is a summary of Custom Plan Sets developed over the past year:

Commodity	Number
Beef	49
Dairy	24
Swine	23
Sheep	1
Poultry	3
Horticultural	15
Grain, Forage, and Feed	17
Special Structures	45
Building Component	15
TOTAL	192

Department staff distributed 2,600 Plan Sets. They made 831 farm calls and supplied engineering services on 715 projects.

Farm Power and Machinery

The sale of farm equipment has slowed over the past year. Many farmers are maintaining their debt load by reducing the purchase of farm equipment. The farmers that are presently buying equipment are carefully evaluating the specifications and questioning the capability before purchasing. This has led to a continuous increase in demand for updated information on equipment specifications and new technology.

The mechanization group has worked very closely with the AFDA and ALFI programs. These programs continue to promote, introduce, evaluate and support proper management of new technology. In cooperation with these programs, farmers, agricultural representatives, and the crop specialist, the following new technology projects were supported:

Tubline wrapper

ASA carrot harvester

Pesticide safety cab

Traileyre big bale handling

Onion topper

Celery harvester

Electronic color sorter of strawberries

Fixed bale "round bale handler"

Orchard sprayer

Disc plow

Evaluation of grain stripper header

Windrow hay fluffer

Strawberry harvester

Blueberry land levelling

Computerized machine management

Scotia Hay Co-op hay compaction and handling

Spray check program

Round bale feeder

Radium heat pruner (blueberry)

Fertilizer incorporating herbicide

Mulching garlic

Field days such as EXPO 90, plowing demonstrations and sprayer clinics were used to educate the clients on new technology and the proper use of existing technology in the area of mechanization.

LAND AND CREDIT SERVICES BRANCH

OVERVIEW

Prior to February 1990, the Land and Credit Services branch was known as the Agricultural Development and Credit Services branch. The name change was made in February of 1990 as part of the Department reorganization.

The Land and Credit Services Branch provides support services to the Nova Scotia Farm Loan Board and as well administers the Department's Young Farmers Interest Forgiveness and Land Purchase and Lease Programs.

The fiscal year ending March 31, 1991, was a particularly busy year.

The personnel of this branch worked with the board to meet the significant demand for loans which was experienced last year. The staff were pleased that these efforts to assist the board were successful and noted that this was made possible by the cooperation which exists between the Nova Scotia Farm Loan Board and staff of this branch as well as farmers and their organizations.

Staff of the branch coordinated nine meetings of the board totalling 26 days in 1990–91.

For the year the loan officers reviewed and prepared case reports on 259 loan requests totalling approximately $19.1 million and presented 254 reports on other matters of concern to the Board.

In addition to the work of processing loan requests, staff are involved with on-going administration and assistance of its approximately 1,415 loan accounts and 400 lease accounts. The branch also administers the accounts of the Timber Loan Board. There were 39 Timber Loan Board accounts at year end.

Administration of the Young Farmers Interest Forgiveness Program is a responsibility of the branch. Staff processed approvals of 34 first year qualifying applicants for $372,211 and 32 second year farmers for a total of $324,238.

The Commercial Farmers Interest Subsidy Program was also administered by staff of the Land and Credit Services Branch. In the

year, 573 farmers qualified for this program with total benefits of $613,989 disbursed to eligible borrowers.

In 1990 the branch initiated the review of the board's group life insurance policy utilizing an external consultant. The review process was undertaken with on-going consultation with the board and the executive of the Nova Scotia Federation of Agriculture. The process was not concluded by year end.

Land and Credit Services staff also continued efforts to identify a suitable automated loan administration and accounting program which would be of benefit to the branch and to the farmers financed with the Nova Scotia Farm Loan Board.

Land and Credit Services staff are very much aware and concerned with the financial difficulties which some farmers continued to experience in 1990–91. Loan officers and management personnel recognize that their roles in providing financial management counselling as well as the processing of loan requests are important services to Nova Scotia farmers.

Personal contact with farmers and the general public is important to the successful operation of the branch. Staff maintained this contact through 1,124 farm calls, 1,786 office visits and in excess of 6,000 telephone conversations in 1990–91.

From a financial perspective the branch is charged with administering loan and lease accounts having a total value of approximately $146.2 million. The annual cash flow from repayments, rentals and loan disbursement is approximately $38 million. Staff of the branch prepare virtually all legal documents necessary for securing the loan and lease accounts.

Staff of this branch wish to acknowledge the twelve years of service Mr. Arnold Rovers provided to the branch and the board in his capacity as Director.

The staff of the Land and Credit Services branch extend their appreciation to Mr. Lawrence Coldwell, Chairman of the Nova Scotia Farm Loan Board and Vice-Chairman John MacLean, and members, Mr. Casey van de Sande, and Mr. Bill Swetnam. Appreciation is also extended to board member Gordon Creelman who retired from the Board after two terms having been appointed to the board in February of 1982.

MARKETING SERVICES BRANCH

OVERVIEW

The Marketing Services Branch provides leadership and assistance to the agricultural industry in the marketing of agri-food products. Through consultation and liaison with all facets of the marketing system, programming has been developed in the areas of market analysis and research, market information, administration of government policies and regulations, product development and promotion, market development, education and audio-visual services. While the 14 staff members are divided into four sections (Administration, Information and Regulations, Market Development, and Audio-Visual), responsibilities cross lines and most programs are the result of a co-operative effort.

Nova Scotia Natural Products Marketing Council

Under the authority of the Natural Products Act, the Natural Products Marketing Council supervises the activities of the following agricultural commodity boards:

- Nova Scotia Wool Marketing Board est. 1947
- Pork Nova Scotia est. 1952
- Nova Scotia Chicken Marketing Board est. 1966
- Nova Scotia Egg and Pullet Producers Marketing Board est. 1966
- Nova Scotia Turkey Marketing Board est. 1972
- Nova Scotia Flue-Cured Tobacco Growers Marketing Board est. 1973
- Nova Scotia Grain Marketing Board est. 1981
- Nova Scotia Potato Marketing Board est. 1982
- Nova Scotia Evening Primrose Marketing Board est. 1986
- Nova Scotia Processing Pea and Bean Marketing Board est. 1987
- Nova Scotia Greenhouse Vegetable Marketing Board est. 1988

During the year the council met six times to deal with commodity regulations, plans and amendments. Two appeals, one dealing with turkey and the other dealing with pork, were also heard.

Atlantic and national meetings were attended to update on GATT and FTA talks as well as recent developments in the various national commodity agencies. Topics examined included the notice to withdraw by Ontario and Quebec from the egg surplus removal program and the dormant quota situation.

The Nova Scotia Turkey Marketing Board reported a growth year in that industry and the pricing formula of 1989 appeared to be working fairly well. The Nova Scotia Chicken Marketing Board reported that not one arbitration meeting was required in 1990. The Nova Scotia Potato Marketing Board set up a Price Advisory Committee which included a cross-section of that industry. Five teleconferences were held to examine the supply–demand situation. This was particularly useful during the harvesting of Nova Scotia's early crop.

Negotiation for the processing pea contract was settled by arbitration whereas the bean contract was settled by committee.

Council worked with Pork Nova Scotia in amendments to regulations, new licensing clauses, and regulations dealing with booking and shipping. The Nova Scotia greenhouse vegetable industry continues toward formulating regulations regarding committee structure for licensing and price negotiating . Wool prices declined from a year earlier. Council recommended that the Evening Primrose Marketing Board be revoked due to inactivity.

Market Research

A fox fur market study was completed in 1990. An evaluation of the Armstrong Select Beef pilot project was completed and a study was done for Pork Nova Scotia on consumer consumption patterns. The branch participated in a national study on the specialty food industry. An analysis was done on the Nova Scotia foodservice market. Study began into developing an agricultural quality identification program.

Market Information

In addition to servicing individual requests, a variety of general market information services were made available.

Market Report—This report, giving local agricultural product prices on a bi-weekly basis, was subscribed to by approximately 1600 producers and agri-business interests.

Market Update—An external letter gave information on popular marketing topics.

Fresh Produce Supply Forecast—A weekly supply information letter was mailed to approximately 200 in the produce trade.

Remote Bulletin Board System—The RBBS has been upgraded from version 16.1A to 17.2A, thus providing additional features such as downloading.

Focus on Foodservice—A letter to foodservice operators was issued on a timely basis.

The Market Line—A telephone-recorder offered daily updated fruit and vegetable market information.

The Harvest Line—Working with the Farm Fresh Marketing Association, this line provided consumers with the latest U-pick and roadside stand supply information.

Wild Blueberry Association of North America Newsletter—We continued to serve as editor of this quarterly international blueberry newsletter.

TARIFF

The branch continued as advisor for the application and removal of seasonal tariffs on imported fruits and vegetables for the Maritime Tariff Zone. In 1990–91 products affected were beans, beets, broccoli, cabbage, carrots, cauliflower, sour cherries, sweet corn, cucumbers, head lettuce, green onions, onions, peas, plums and tomatoes.

REGULATIONS

As advisor to the Minister regarding the Nova Scotia Fruit and Vegetable Regulations, the branch maintained a close working relationship with federal inspectors of Agriculture Canada and Consumer and Corporate Affairs. There were 48 detentions imposed as a result of sub-grade produce.

An additional apple grade "Nova Scotia Select" has been added to our regulations to accommodate 2¼ inch Cox Orange and Russet varieties.

Again the Minister approved the experimental grades canner tomatoes and mini potatoes for the 1990 marketing season.

The branch assisted industry in their search for a suitable reusable shipping container for apples and other produce. Research continues.

BRANCH PROGRAMS

The branch administered the following major departmental programs.

School Milk Program

This program continues to be well established in Nova Scotia schools as 538 of an eligible 561 schools participated. The price of a 250 ml serving to the student was raised from 20 cents to 30 cents, resulting in a total contribution to the program by the department of $1.159 million. This was the first student price increase since 1986.

Hog Transportation Program

The Live Market Hog Transportation Program assists producers in defraying a portion of their transportation costs to market. In 1990–91, 217,706 hogs were shipped and producers received $141,785 under the program.

Market Assistance Program

The Market Assistance Program assisted commodity associations and marketing boards with their market development and promotional programs. There were 30 applications approved from 26 organizations totalling $104,220.

Livestock Market Development

Liaison was maintained with all sectors of the livestock, red meat, poultry and dairy product marketing chains.

An advertisement tracking service was continued in 1990. Non-traditional poultry and game market demand surveys were updated for the trade. The six month Armstrong Select Nova Scotia Beef program demonstrated industry co-operation and consumer support. Dairy goat milk fluid and processed markets were assessed for Elm Avenue Dairy. Chicken supplies and pricing in the province were monitored for the Canadian Chicken Marketing Agency.

Market information was dispersed to the livestock and fur industries.

The Nova Scotia Fox Breeders successfully completed an AFDA cost-shared five-year marketing strategy.

Fruit and Vegetable Market Development

The Kentville office of the Marketing Services Branch continues in its primary role of providing the marketing component of the department team approach to promoting the growth and development of the province's horticultural industry.

The branch encourages and assists individuals and groups to project their businesses onto regional, national, and international markets. Advancements were made in apple grading and marketing.

Nova Scotia Gravenstein apples were promoted on the Toronto market in 1990 with encouraging results.

A wet spring curtailed many expansion plans in the vegetable industry. However, the fledgling onion industry continued to increase, as did new vegetable handling and marketing facilities.

A record crop of 28 million pounds of blueberries was harvested in 1990. This produced a logistics problem. Receivers had to close their doors during the peak season as facilities were unable to handle the volume.

Strawberry growers initiated a long-term marketing program. The 1990 crop produced 3.8 million quarts from 700 acres valued at $3.49 million. U-Pick farms accounted for 40 percent of the crop. Severe discounting accounted for a very volatile marketing climate.

Foodservice

Canadian studies show that anywhere from 33 to 39 per cent of the food dollar is now spent in foodservice establishments. This food market has experienced a 40 per cent growth in the past five years. Food purchases by the foodservice industry in Nova Scotia are an estimated 450 million dollars annually. Liaison with this market increases in importance each year. The purchasing practices and policies in this market are monitored as well as food product specifications, preparation and packaging requirements.

The branch participated in several foodservice promotions such as Taste of Nova Scotia, Out of the Blue, N.S. Veggie Cook-off, N.S. Festival of Foods, Meat Me For Lunch, and Apprentice Chefs Culinary Competition. The Taste of Scotland program was investigated. Forty-seven restaurants participated in the second year of Taste of Nova Scotia.

Several trade shows were attended including Harvest Food Fest, ApEx Food and Beverage Show, Canadian Food and Beverage Show, ApEx Restaurant Show, and St. Pierre and Miquelon trade mission.

A market study entitled "A Market Analysis of the Nova Scotia Foodservice Industry 1990" was commissioned. It explores the attitudes and perceptions of foodservice end-users towards Nova Scotia food products.

PROMOTIONS

Promotion and advertising are an integral part of domestic and export market development. Administering the Market Assistance Program was a related activity in which $104,220 was allotted to 30 applicants.

Several commodity brochures were developed including rabbit, chicken and maple.

Hand-outs were developed in conjunction with the new Agriculture Awareness Program.

The branch participated in several workshops and seminars dealing with media, radio, food processing, advertising and career tracking.

Branch staff participated in several trade missions and attended trade shows as an exhibitor and/or delegate.

On behalf of the department, 32 advertisements in newspapers, magazines, and exhibition program books were placed.

Several consumer shows were attended including the Garden and Patio Show, Seniors Expo, Harvest Food Fest, Swing Into Spring, and the Atlantic Winter Fair.

AFDA - MARKET DEVELOPMENT PROGRAM

Since the commencement of the Canada/Nova Scotia Agri-Food Development Agreement in 1988, the Market Development Program has been a key resource to the industry in implementing special studies, developing marketing information systems, providing marketing infrastructure, assisting product development and encouraging marketing organizations. Two branch members serve on the Implementation Committee and every branch member has been involved in one or more of the 206 projects initiated to April 1991. Funds committed to that date were $4,067,401.

INTERPROVINCIAL AND INTERNATIONAL RELATIONS

As part of its relationship with other provinces, departments and the international community, the Branch participated in a number of committees and meetings. These included the Nova Scotia Trade Development Authority, the Federal/Provincial Market Development Council, the Federal/Provincial Trade Policy Committee, the Wild Blueberry Association of North America and the National (U.S.) Association of Marketing Officials. Various contacts and meetings were held with the federal departments of Agriculture Canada and External Affairs on matters of trade.

AUDIO-VISUAL SERVICES

Audio-Visual Services serves both the Marketing Services Branch and the department with their educational requirements.

Because of increased demands, a formal policy was developed

covering work priorities, copyright regulations, dubbing, equipment loans, etc.

Eighty-five radio interviews were conducted for the department's radio series "Nova Scotia's Agriculture and Marketing Update." This goes out to a potential listening audience of 300,000 to 400,000. In addition, the studio taped an additional 369 monologues for other department staff. Equipment loans to department and college staff totalled 1,426. Three hundred and fifty one tapes were cut for the popular Garden Guide series.

Along with location and press assignments, department staff have grown to rely on good quality visual aids to enhance presentations, print material, etc. Photography assignments numbered 360, and 15 slide shows were completed.

Three video productions were completed in co-operation with private production companies—Strawberry Nursery Program, Maritime Dykelands, and Nova Scotia Sheep Industry.

Graphic design entails such activities as camera-ready art, hand drawings, graphs, lettering, typesetting, computer graphics, design layout and mock-ups. Approximately 1,500 activities were completed in the year.

NOVA SCOTIA AGRICULTURAL COLLEGE

OVERVIEW

In 1990–91 the Nova Scotia Agricultural College (NSAC) experienced a very significant increase in enrolment which followed several years of minor declines. The increase for 1990–91 was 17 per cent over the previous year, and based on a further increase of 50 per cent in first applications for 1991–92, it appears that the College will easily meet its objective of 750 students by 1992–93.

A new recruitment program began in 1989–90 which would account for some of the increase, but there are probably a number of causes. A general comment of faculty was that the quality of student had also increased and this was indicated by the increased number of Nova Scotia Department of Agriculture and Marketing scholarships. This suggests that the NSDAM Scholarship Program is a key to maintaining a high quality student body.

The first students to complete the Animal Health Technology Program graduated in May, 1991. The evidence from potential employers suggests that they were very well prepared Animal Health Technologists.

There was also a revitalization of student life on campus, concomitant with a 44 per cent increase in residence occupancy. The success of the new residence program is best illustrated by the fact that student damage to residences declined from over $18,000 to less than $3,500.

College Royal was moved from October to its former time in March with greatly renewed interest and participation by students and faculty. College Royal stressed student achievement and included student research project posters and other displays.

The NSAC team of four students won the grand prize at the Ag-Challenge Competition in Saskatoon in June 1991. The research papers and presentations, based on the student's final year projects, were given the top four placings at the Competition.

Faculty attracted over $2.25 million in research funds making the NSAC the third most active research university in Nova Scotia. The size of the grants are increasing and also the diversity. For example, the

Social Sciences and Humanities Research Council awarded a grant to the College to study applied ethics in agriculture and a contract to study dairy cow nutrition was received from the Agimoto Company, Japan.

International development projects reached nearly $1 million. A partnership's CIDA project between the NSAC and a Colombian University was judged number one of the 119 submissions from all universities in Canada. The number of interested students studying at the college continues to rise.

COURSES OFFERED

Degree

A complete four-year program leading to a degree in Agricultural Sciences (B.Sc. (Agr.)) is offered with a choice of the following options:

- Agricultural Chemistry
- Agricultural Economics
- Agricultural Mechanization
- Agriobiology: Environmental Biology
- Agriobiology: Plant Protection
- Animal Science
- Plant Science
- Soil Science

Most students complete their degree at the NSAC but they may still pursue other options without interruption by transferring to the B.Sc. (Agr.) program at Macdonald College of McGill University, the University of Guelph, the University of Maine or the Faculty of Agriculture at another university.

Students who successfully complete the three years of the Agricultural Engineering diploma program can proceed to Macdonald College of McGill University or the University of Guelph to complete their program of study. A two-year engineering diploma program is built into the three-year program for students proceeding to any specialty at the Technical University of Nova Scotia.

Students who wish to take the two-year Pre-Veterinary program to meet admission requirements of the Atlantic Veterinary College at the

University of Prince Edward Island will be counselled in their selection of courses regarding blending of the Pre-Vet program with the options of the B.Sc. (Agr.) program.

Technician

The following two-year programs of study are offered:

- Agricultural Business
- Agricultural Engineering
- Animal Science
- Farm Equipment
- Plant Science

Technology

The following two-year programs of study are offered:

- Chemistry Laboratory Technology
- Landscape Horticulture Technology

The following two-year programs are offered only to students who have successfully completed one year of a specified Technician Course (or equivalent):

- Agricultural Engineering Technology
- Farming Technology

Three-year programs are offered in:

- Biology Technology
- Food Laboratory Technology

Agricultural Technology is a one-year program, tailored to meet the needs of the student. Only technician graduates are eligible to apply for this course.

REGISTRATION 1990–1991

1st Year B.Sc. (Agr.)	113	
2nd Year B.Sc. (Agr.)	95	
3rd Year B.Sc. (Agr.)	61	
4th Year B.Sc. (Agr.)	50	
Subtotal B.Sc. (Agr.)		319
1st Year Engineering	15	
2nd Year Engineering	10	
Subtotal Engineering		25
1st Year Technicians	54	
2nd Year Technicians	45	
Subtotal Technicians		99
1st Year Technology	58	
2nd Year Technology	37	
Subtotal Technology		95
Total full-time students		538
Special Students (Part-time)	47	47
Special Students (Full-time)	8	8
TOTAL ALL STUDENTS		593

VOCATIONAL AND CONTINUING EDUCATION PROGRAMS

Vocational courses have been designed to assist men and women enter or progress in farm or farm related careers. Eighty-two courses were held with 985 persons enrolled, totalling 10,808 student training days. In addition to these, nine courses were cancelled due to the low number of applications received.

The Canada Employment and Immigration Commission sponsored 119 persons totalling 2,465 training days by paying tuition and a training allowance. Details on enrolment can be seen in the following tables:

	Number of Students			% of Total Students		
Province	**1988–89**	**1989–90**	**1990–91**	**1988–89**	**1989–90**	**1990–91**
Nova Scotia	489	542	778	68.1	70.2	79.0
New Brunswick	98	118	114	13.6	15.3	11.6
Prince Edward Is.	65	46	38	9.1	6.0	3.9
Newfoundland	50	48	30	7.0	6.2	3.0
Other residents	16	18	25	2.2	2.3	2.5
Total # enrolled	718	772	985			
Total # graduated	684	744	968			
Total # sponsored by CEIC	236	207	119			
Total student training days	8,804	7,974	10,808			

RESEARCH PROJECTS

Research activity at the Nova Scotia Agricultural College has continued to grow in 1990–91 with an income of 35 per cent over the previous year. The following figures represent the disbursement of research funds for the fiscal year ending March 31, 1991. The major sources of research funding continue to be the Nova Scotia Department of Agriculture and Marketing and the Canada/Nova Scotia Agri-food agreements. However, grants from other sources increased some 17 per cent over 1989–90.

Funding	**Research Spending 1990–91**
N.S. Dept. of Agriculture & Marketing	$ 280,000
Atlantic Livestock Feed Initiative (ALFI)	771,000
Canada-Nova Scotia Agri-Food Development Agreement (AFDA)	684,000
Natural Sciences and Engineering Research Council (NSERC)	151,000
Social Sciences and Humanities Research Council	42,000
Outside Research Grants	230,000
Outside Research Contracts	112,000
Total all sources	$2,270,000

COLLEGE FARM

The NSAC operates a modern livestock and crop farm in support of teaching and research. The college farm which consists of approximately 214 hectares (528 acres) of upland, interval, marshland and woodlands provides all the forage needs for the farm. A summary of the crops grown during 1990 are as follows:

Crop	Hectares	Acres
Research Plots	9	22
Annual Ryegrass	1	3
Legume Forage	61	151
Grass Forage	58	143
Corn Silage	4	10
Improved Pasture	27	67
Cultivated Pasture	28	69
Barley	13	32
Woodland	13	32
Total	214	529

Thirty-five faculty research projects and 11 student research projects used the livestock and poultry facilities during the year. Livestock numbers remained fairly constant during the year with two exceptions. The Ayrshire herd which was housed at the college for many years was dispersed and a small herd of Pine Marten was added to the Fur Unit. Year end livestock and poultry numbers were as follows:

Species	April 1990	March 1991
Beef Cattle	140	104
Dairy Cattle	94	88
Sheep	253	120
Swine	400	331
Foxes	112	103
Mink	102	84
Marten	–	13
Horses	11	12
Poultry	3,645	2,908

PLANT INDUSTRY BRANCH

OVERVIEW

The Plant Industry Branch came into existence in 1990 with the combining of the former Soils and Crops Branch and the Horticulture and Biology Branch.

The Plant Industry Branch is responsible for providing overall leadership in the area of crop extension for the province. In addition, it provides support services to activities of other branches of the department and other departments of government.

The Plant Industry Branch is divided into seven sections:

Administration,

Analytic Services,

Field Crop Advisory Services,

Horticultural Crop Advisory Services,

Plant Pathology, Entomology and Apiculture Services,

Soil Science & Land Evaluation Services, and

Weed Science Services.

Each section has specific programs and responsibilities but there is a high degree of overlap and cross co-operation that exists within the branch and with other divisions.

A summary of branch activities and industry trends and issues in 1990 follows.

THE 1990 SEASON

The growing season started poorly in Nova Scotia with April receiving approximately 80 per cent more precipitation than normal. This trend continued into May as most regions in the province received over 175 mm (7 in.) of rain which is more than twice the 30-year normal. The May average temperatures were about 1°C below normal and the hours of sunshine were down 20 per cent. This, combined with the high amounts of rainfall, resulted in poor field working conditions for the spring.

Precipitation totals for the month of June were quite variable as they ranged from 68 per cent above normal to 56 per cent below normal. Average temperatures for June were 1°C above normal and increased the seasonal heat units to around normal for that time of the season.

July continued with above average temperatures while minimal rainfall in the first half of the month resulted in below normal precipitation totals.

Drought-like conditions occurred in many locations throughout the province in August as the average temperatures were 2°C to 4°C above normal and rainfall amounts were down substantially in most parts of the province. Seasonal heat units were up by as much as 20 per cent at some locations for that time of the season.

September brought more above average temperatures and approximately normal rainfall amounts to the province.

Precipitation totals for the month of October ranged from 9 per cent above normal to 99 per cent above normal. The above average temperatures and generally cloudy conditions resulted in the first fall frost occurring about two weeks later than normal.

Departures from the normal precipitation and temperature can be found in Table 1.

TABLE 1

Average Temp. and Total Ppn't Departures From Normal, 1990

Average Temperatures (°C) and Total Precipitation (per cent) Departures From Normal During 1990

Location	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Treo T (°C)	+3.4	+0.2	-0.5	+1.7	+0.6	+3.3	2.0	+4.1	+1.5	+2.9	+0.8	+2.9
P(%)	+9.0	-24.0	-29.0	+77.0	+79.0	0	-29.0	+32.0	+27.0	+54.0	+24.0	-8.0
Yar T (°C)	+2.3	-0.2	-0.1	+0.3	-0.5	+0.8	+1.1	+2.4	+0.7	+1.8	-0.1	+2.2
P(%)	-7.0	-10.0	-55.0	+31.0	+104.0	+54.0	-67.0	-91.0	-8.0	+9.0	-28.0	+1.0
Kent T (°C)	+3.2	+1.0	+0.6	+1.7	-1.0	+1.4	+1.4	+2.1	+0.2	+2.7	+0.3	+3.0
P(%)	-28.0	+32.0	-32.0	+71.0	+157.0	-56.0	+13.0	-68.0	-35.0	+24.0	+1.0	+25.0
Syd T (°C)	+0.3	-3.2	-2.1	+1.0	-1.5	+1.5	+0.2	+2.2	+0.2	+2.1	+0.1	+1.8
P (%)	+2.0	-15.0	-58.0	+80.0	+112.0	+13.0	-40.0	-36.0	+75.0	+43.0	-18.0	+86.0

ASSISTANCE PROGRAMS

Bulk Bin Program

The Bulk Bin Construction Assistance Program is administered by the Plant Industry Branch. The assistance under the program allows fruit and vegetable growers to construct up to 200 bins at $10.00 per bin—a maximum of $2,000 assistance (minimum number of bins eligible is 25). The bins are inspected and coded—each farm having its own code.

The total money allocated under this program is $85,000 of which $46,100 was spent this year. A total of 72 applications were processed of which 49 were tree fruits and 23 were vegetables. Only 48 growers submitted claims (37 tree fruit growers and 11 vegetable growers), 24 growers did not build bins. A total of 4,610 bins were constructed.

Fertilizer Assistance Program

The Fertilizer Assistance Program was in full operation in 1990. A total of 1,739 applications were processed, representing 1,632 individual claimants, and $1,203,810.90 in assistance was paid out. The formula has been changed from a straight 25 per cent to a maximum of $2,500 to a sliding scale where the first $2,000 of claim is paid 25 per cent, the second $3,000 is paid 20 per cent, and anything above that is paid 10 per cent to the maximum of $2,500 assistance. For this reason, although the average claim size has been increasing annually, claim size decreased this year. Total program dollars are also reduced.

The total of 100 942 ha (249,427 a) represented about 66 per cent of what statistics would show as "improved farm land" in Nova Scotia. This compares to 78 000 ha (192,738 a) indicated as fertilized in the previous year.

ANALYTIC SERVICES

Some major changes occurred in the Analytical Services Section during 1990. Major renovations were completed to house the pesticide residue laboratory which moved from Kentville to Truro. In addition, a non-chemical storage room was totally renovated to house the soil physical analysis operation.

Statistical summaries of samples received during 1990 appear in Tables 2 through Table 4.

Soil Chemistry

Soil samples declined in 1990 compared to 1989 but were consistent with the previous three to five year average. Greenhouse soils declined in 1990, primarily due to a significant decline in samples from the Nova Scotia Department of Lands and Forests. Samples from the agricultural sector remained fairly stable.

Soil Physics

Samples requiring soil physical analyses declined sharply during 1990. Because of lab renovations, the Soils Section reduced the number of samples taken through the LEAPS program to an absolute minimum. This is reflected in the fact that only 38 per cent of analyses were conducted in support of LEAPS compared to 70 per cent in 1989.

An additional 38 per cent of analyses were conducted as a result of contract work, 20 per cent for Plant Industry staff and 4 per cent for others.

Livestock Feed

Livestock feed samples increased for the seventh straight year, with most of the increase being attributed to forages. Receipt of forage samples has almost doubled in the past five years.

Foliar tissue samples from the agricultural sector have shown a gradual decline over the past five years. On the other hand, water samples have shown a gradual increase. The most significant increase in 1990 was in domestic samples, with an increase of 45 per cent.

Pesticide Residue

Samples were down sharply in this category, partly because of the renovation and move involving this lab. Also, 1989 was the initial year of the Kings County Well Water Survey and accounted for approximately three times as many water samples as in 1990.

TABLE 2

Five-year Laboratory Sample Summary

MATERIAL	1986	1987	1988	1989	1990	%CHANGE
Soils						
Field	12,331	13,096	11,996	14,656	12,368	
Greenhouse	2,734	2,938	1,951	1,494	914	
Total	15,065	16,034	13,947	16,150	13,282	-17.8%
FEED						
Forage	4,386	5,968	6,529	7,508	8,213	
Cereal	1,085	1,596	675	887	879	
Milled Feed	2,047	1,881	2,056	1,621	1,401	
Other	925	1,039	1,054	986	1,073	
Total	8,443	10,484	10,314	11,002	11,566	+5.1%
TISSUE						
Commercial	2,343	2,850	2,491	2,370	2,372	
Research	1,614	1,045	555	853	323	
Total	3,957	3,895	3,046	3,223	2,695	-16.4%
WATER	2,298	3,199	2,763	3,363	3,600	+7.0%
MISC.	175	951	321	251	281	
TOTAL	29,938	34,563	30,273	33,989	31,424	-7.5*%

TABLE 3

Soil Physics Lab

	1987	1988	1989	1990
Particle Size	523	834	765	238
pH	1,046	1,434	1,264	432
Bulk Density	224	661	529	399
Hydraulic Conductivity	224	412	146	39
Organic Carbon	152	251	239	174
Cation Exchange Capacity	28	85	49	23
Moisture Retention	161	341	231	26
Moisture		64	383	118
Total	2,358	4,122	3,606	1,449

TABLE 4

Pesticide Analysis
Samples Received January 1 to December 30, 1990

MATERIAL	NB	NS	PEI	NF	NS Depts	OTHER	TOTAL 1990	TOTAL 1989
Soil		7		4		1	12	38
Water		1			64	8	73	256
Plant Material		10		3		8	21	43
Milk	10						10	15
Vomitoxin		14	2				16	26
Other		3				2	5	13
TOTAL (1990)	10	35	2	7	64	19	137	
Total 1989	29	57	3	18	237	47		391

FIELD CROP ADVISORY SERVICES

Cereal Crops

The 1990 growing year was a very difficult one for cereals in both growing conditions and price. Winter cereal plantings in the fall of 1989 were reduced due to lower anticipated price for milling grains with the 1990 harvest. The crop survived the winter relatively well with only localized winterkill. Disease pressures were moderate but dry weather in late June and July resulted in lower than average grain yields due to poor grain fill. Quality of grain harvested was quite good.

Spring grain planting was delayed due to heavy and persistent rains during May. This wet and cold weather either delayed seeding or delayed emergence of early seeded grain. These conditions combined with a very dry July and early August resulted in low grain yields.

Nova Scotia Grain Marketing Board

The Nova Scotia Grain Marketing Board is a producer-operated Board, which markets winter and spring grain, as well as corn, soybean, and canola. The Board takes an active role in producer issues, including industry meetings, research and development activities, crop scouting, as well as marketing.

The depressed price for milling wheat resulted in significant reduction in the tonnages being offered to the Board. Similar tonnages of barley, feed wheat, and rye, were committed to the marketing pools. Oat volumes dropped significantly in both volume and grade.

Soybeans, although a small volume and slow market, are establishing themselves as being a high quality feed when roasted as a full fat bean. This market will be further developed in the future.

Corn

1990 was a below-average year for corn. Maturity and quality were excellent, but yield in the Western Region was substantially below normal.

Conditions for planting were ideal for the first 10 days of May. Conditions deteriorated considerably after May 10th. Excessive rain and unseasonably cold weather adversely affected the corn. Plant population was well below what was required to achieve an adequate yield. Cold, wet conditions affected some varieties more than others.

Although corn heat units at Kentville were below the 1989 average, they were above the 30-year normal. This allowed corn planted after June 1st to mature, but yields were very erratic.

Late-planted corn on sandy soil succumbed to drought in the Western Region, while early planted corn was affected by cold, wet conditions.

There are considerable differences in corn varieties, in their ability to withstand cold, wet conditions. If corn hectarage is to increase, then resistant varieties will have to be identified and research will have to be initiated to improve corn's ability to withstand cold, wet soil conditions.

Soybeans

The growing conditions during the 1990 season were generally quite favourable for the growth and development of soybeans resulting in higher than normal yields in most cases and excellent maturity. A wet May delayed planting in some areas. However, the warm weather throughout the summer more than compensated for late plantings since many of the heat units came in July and August when the crops were well established. Most growers harvested their soybeans under good

conditions and in a timely fashion. In fact, many in the Valley were able to seed a crop of winter wheat after the beans were combined. Moisture content at harvest tended to be in the 18 to 20 per cent range. Harvest losses were not substantial in most cases. Those with flex heads had significantly lower losses.

Tobacco

Tobacco acreage dropped from 442 acres in 1989 to 440 acres in 1990. Ten growers, down one from the year previous, produced 1,101, 556 lbs. of tobacco, worth $2,326,962.00 for an average of 2,500 lbs./acre. The 1990 crop was a much better crop in terms of quality and yield than the 1989 crop. This added production in 1990 will probably mean additional acres cut in 1991.

Two variety trials were carried out in 1989 and, for the first time, varieties superior in yield to Delgold were observed. Growers have been asked to increase their contribution to the research effort in the form of increased check-off on the pounds of tobacco that they produce.

Potato Virus Y Neucrotic has shown up in potatoes on Prince Edward Island. It does not seriously affect potatoes, but it can seriously affect tobacco. To date, PVY_n has not been found in any tobacco in the Maritimes. The virus from potatoes to tobacco is transmitted by aphids. The virus has a very short life in the aphid, of approximately five hours.

Unless infected potatoes are grown close to tobacco, the chance of PVY_n spreading to tobacco is not great. Tobacco fields will be monitored again this summer for the presence of PVY_n.

Forage Crops

The 1990 forage crop yields in Nova Scotia were variable, and highly dependant upon localized weather patterns and soil drainage status. Those with substantial amounts of subsurface drainage faired relatively well considering the conditions.

Early season efforts on the part of the crop specialists were directed towards the assessment of winter kill and injury. Frost heaving of legumes on heavy textured and exposed fields was fairly widespread. In a significant number of cases red and white clover roots were pushed 5 to 7cm (2 to 3 in.) out of the ground.

The combination of the weather conditions and significant winter injury (in some areas) reduced the yield of the first cut in the central and eastern regions of the province. In fact, the yield was substantially less than normal and much less than last year. Many farmers reported that it took a much larger acreage to fill their silos this year; or they were unable to fill them with first cut when normally this has been no problem. Those who waited until the latter part of June found that yields were similar to normal early-to-mid June yields. However, within local communities there was a tremendous variation in the yields based entirely on the drainage status of the local soils. Even within fields, variability in the soil drainage had an easily observable effect on the forage growth.

Conversely, the Annapolis Valley and much of the western region of the province experienced a respectable first crop yield. Although, this region experienced less than ideal growing conditions during May as well, the climate of the region is sufficiently different resulting in a speedy recovery of the forage growth during the latter part of May and early June. Furthermore, the general drainage status of much of the agricultural soils in the Annapolis Valley is better than many other regions in the province.

Pasture growth was also affected by the adverse growing conditions early in the season. Many dairymen in the eastern part of the province let their cattle out in mid-May, grazed what was there, and were forced to bring them back into the barn due to the slow pasture growth. This had a significant impact on the forage carry-over from last year. Many farmers reported emptying silos or hay mows that have not been emptied for years.

The growth and development of the second crop was entirely dependant upon the soil drainage and the timing of the first cut. By late June and early July most areas were in need of rain. Well drained fields that were cut late had virtually no regrowth in many cases. The fields that were cut early and had some capacity to hold moisture had excellent regrowth. Unfortunately, these fields were few in number since many farmers had delayed their first cut to improve the volume. Fields with decent regrowth started to lose yield by late July due to leaf drop caused by the drought.

Pasture growth slowed much earlier than normal in many regions due to the dry conditions. Many cattlemen started supplementing their pastures with stored feed much earlier than normal. Those who had

relatively new seeded, improved pastures found that in some cases they would not have had any pasture at all had it not been for the improved varieties of white clover and orchardgrass.

The quality of both the second and the third crop was generally excellent whether it was harvested as hay or as haylage. This can be attributed to ideal wilting and harvesting conditions.

Even though, many farmers started feeding stored forage earlier than normal, most should have enough hay and/or haylage to get them through the winter. This can be attributed to the fact that many had fairly respectable third cuts or they have more land than is needed in a normal year.

The majority of hay marketing efforts in Nova Scotia can be grouped into two major areas of activity. The first is the activities associated with the Nova Scotia Hay Producers Association and, in Middleton, Scotia Hay Co-op. The second area of activity is the hay that is sold domestically and to Newfoundland by individuals. Realistic statistics on the second group's activities are difficult to obtain. However, the Scotia Hay Co-op is affiliated with Co-op Atlantic which acts as a brokerage for export hay in the region.

Newfoundland is the most important market, making up approximately 70 to 80 per cent of annual sales of the Co-op. The viability of the co-op is primarily dependant upon this market and its ability to compete with other sellers in the region. In 1988–89 the Scotia Hay Co-op marketed close to 1,400 tons of hay for 28 farmers for a total farm gate value of almost $96,000.

Tonnage exported in 1989–90 was approximately 1500 tons. Most farmers receive around $75 to 80/ton on average for their hay and are recognizing the value of quality. Premium quality hay (+15 per cent crude protein) pays $100/ton.

Although Newfoundland is the primary market, other important markets have been developed. The Bermuda horse market has been relatively steady over the last few years for Scotia Hay Co-op at around 20 tons of timothy hay every three weeks for a total volume in 1988–89 of around 300 tons. Similar amounts were exported last year.

HORTICULTURAL CROPS ADVISORY SERVICE

Vegetables

The acreage of vegetables in 1990 was estimated to be 12,230—an increase of 110 acres from 1989. Value of production was at least $13.4 million (a decrease of 3.5 million dollars from 1989) at the farm gate—from a marketable production of 148.6 million lbs. (down 31.4 million lbs. from 1989).

Crop yield and quality were generally good but potato yield was a problem both on the early and processing markets due to the wet May and a hot, dry July and August. The wet May led to processing pea crops which were only one half of last year's yield.

Cabbage, carrots and cauliflower suffered under hot and dry conditions so yield and quality were negatively affected. The low price for potato crop contributed to the decline in gross farm sales. Some potato varieties did not yield well even when irrigation was supplied. This may be due directly to the cultivar's response to the high temperature in August.

There was a serious problem with diamondback moths in cole crops. Our one processing brussels sprout grower lost much of his crop potential. Cabbage and cauliflower crops were also hard hit leading to a shortage of green leafy cabbage.

Storage crops are of good quality and they are anticipated to keep well in storage. Marketings to wholesale and production of specialty crops were again on the rise this year. With overall lower yields and prices, net returns for growers will be down substantially in 1990.

Greenhouse Crops

The 1990 crop year for greenhouse production proved to be a difficult one for many growers for a number of reasons. Greenhouse area and numbers of producers remained stable but all sectors of the industry had some problem areas.

Marketing continued to be a major concern for greenhouse vegetable growers with periods of price instability caused mainly by external market forces.

Bedding plant growers suffered through a period of very poor sales in the month of May as a result of extremely wet weather. Conditions improved in June and sales recovered to some extent.

Market demand for cut flowers and potted plants from Nova Scotia producers remained flat during 1990. Possible causes included increased imports, some problems with product quality, and the beginning of the recession.

Pest and disease problems continued for some growers but the introduction of new technology in spray application and increasing awareness of the need for prompt action has resulted in better control of the recently introduced pests.

New technology has also gained greater acceptance in the propagation of bedding plants, hydroponics for vegetable production and in labour saving in all sectors of the industry, indicating that growers remain confident that the industry will continue to improve productivity and profitability.

BERRY CROPS

The 1990 berry crop grossed Nova Scotia growers $6,218,485. This is a decrease of $294,530 over 1989 farm value. Lower production in strawberry and highbush blueberry fruit, and lower farm gate strawberry price contributed to the decrease. Higher production occurred in certified strawberry plant sales and grape production.

Berry Crop Production and Value—1990

Fruit	Production	Units	Price	Value ($)
Strawberry	3,800,000	quarts	0.919	3,492,000
Highbush Blueberry	263,000	pints	1.40	368,000
Cranberry	450,000	pounds	0.70	315,000
Raspberry	160,000	pints	1.30	208,000
Grape	160	tonne	600.00	96,000
Strawberry Nursery Plants	25,632,590	plants	0.064	1,640,485
Raspberry Nursery Canes	300,000	canes	0.33	99,000
TOTAL				6,218,485

Strawberry

The Nova Scotia strawberry industry in 1990 recorded a farm gate value of $5.13 million, down $283,530 from 1989. Fruit production was down about 200,000 quarts; plant production was up by 2 million plants. Nova Scotia's strawberry crop is estimated at 3.8 million quarts, down slightly from the 4 million quarts harvested in 1989. Harvested acreage

of 700 acres has been holding steady for the past two years. Crop yields varied greatly. A few growers reported complete winter kill in some fields, a few growers had reduced yields, while other growers reported excellent yields.

In contrast to 1989, the 1990 harvest season was 10 days later than last year because of a cold wet May. Nova Scotia strawberry growers planted 338 acres in 1989, and 359 acres in 1990. With a carry over of third year fields planted in 1988, an estimated 750 acres may be in production for 1991.

Nova Scotia's certified strawberry plant nursery program continues to expand with new record sales of 25.6 million plants from five nurseries. Over 93 percent of the plant sales were exported out of Nova Scotia. All five nurseries were certified for the 1990–91 season. A total of 131 acres were inspected.

Highbush Blueberries

The 1990 highbush blueberry crop is estimated at 263,000 pints, down 27,000 pints from 1989 and still well below the potential and former average production 430,000 pints. The expected cause for the low yields is some form of winter injury to the fruit buds.

U-Pick price was $0.85 per pint; local fresh, $1.33; export, $2.30. The wholesale Boston price was lower than average at the beginning of the season because additional Michigan highbush blueberries were diverted from processing to the fresh market.

A crop insurance plan was developed for highbush blueberries for the 1990 season. The highbush blueberry growers did not accept the plan as they claimed their share of the cost was not acceptable.

Raspberry

The 1990 raspberry crop is estimated at 160,000 pints, lower than the potential from new plantings. Many growers reported varying degrees of winter injury. Additional new acreage has been planted in 1990.

Cranberry

The 1990 cranberry crop is estimated at 450,000 pounds, similar to the crops of the past four years. The Halifax wholesale paying price is $18.00 to $21.00 (24x12 oz.) unchanged for the past few years. Requests were received from potential cranberry growers in Yarmouth, Arichat and West Apple River to inspect sites to either develop new cranberry bogs or to redevelop abandoned bogs.

Grapes

Nova Scotia has 41 grape growers in seven counties with 150 acres under management. In 1990, 10.49 new acres were planted, 18.16 acres removed or abandoned resulting in 150 potential acres for grape production. The reduction in vineyard acreage in 1990 was the result of vineyard restructuring and removal of undesirable cultivars. Grape production in 1990 was estimated at 160 tonnes.

The grape vines came through the 1989–1990 winter with very little winter injury. The cool weather during May did cause growers to wonder what affect it may have on grape maturity. As it turned out, heat units during the growing season were above normal. Degree days above 10°C either equalled or exceeded the 1989 record high. The 30-year normal was 909. Data from five stations in 1989 was 1,011, while in 1990 there were 1,038 degree days over 10°C. This resulted in excellent grape maturity and, for most part, high brix and reasonable acid levels. For the first time in 10 years one vineyard did experience a lack of moisture because of a period of dry weather during the latter part of the growing season.

Lowbush Blueberries

The official figure for Nova Scotia's 1990 lowbush blueberry crop is 27,994,286 pounds (12 597 428 kgs). The previous five-year average figure (1985 to 1989) is 17,504,956 pounds (7 877 230 kgs) and the previous crop record, in 1988, was 22,005,048 pounds (9 902 271 kgs). Distribution of the 1990 crop is outlined in the following table.

Distribution of 1990 Lowbush Blueberry Crop

	lbs. (kgs)	Per cent of Total
Processed in Nova Scotia	19,604,975 lbs. (8 822 238 kgs)	70.0 per cent
Exported for processing to U.S.	6,830,537 lbs. (3 073 741 kgs)	24.4 per cent
Exported to other Cdn provinces for processing	1,105,101 lbs. (497 295 kgs)	4.0 per cent
Fresh fruit sales in Nova Scotia	453,673 lbs. (204 152 kgs)	1.6 per cent
TOTAL	27,994,286 lbs. (12 597 428 kgs)	100.0 per cent

The 1990 growing season was close to ideal with adequate moisture in most areas except for a two-week period in early July and another one-week period in early August. Blight infections were the lowest in years and there were no serious insect outbreaks. Pollinating weather during the bloom period was good. Native pollinators were abundant but there were problems with both the quantity and quality of honeybee colonies available for pollination. Some large fields in Cumberland County experienced yield problems due to failure of fruit to size and ripen properly. The exact cause of this problem has not been established but it is being blamed on insufficient pollinators and/or possible unfavourable weather conditions during some stage of the bloom period.

Weather was generally good during the harvest season with very little rain to interfere with the harvest. Processors initiated an industry-wide harvest scheduling program this year for the first time. Growers were given a schedule indicating which days the receiving sheds and processing plants would be accepting fruit. Although there was a considerable amount of initial apprehension among growers, the system worked quite smoothly. The plan helped greatly to even out the flow of berries to the processing plants and dramatically increased the percentage of Grade A product that was packed. Growers received 40 cents per pound for their crop. The previous five-year average price is 53 cents per pound. The total farm gate value of the 1990 crop, at 40 cents per pound, is $11,197,714.

MAPLE

A total of 68 producers made 93,193 litres of pure maple syrup in 1990. The average return to grower was estimated at $8.58/litre for a total farm gate worth of $799,500. This production compared to other years can be found in the following table.

Period	Average Annual Production (litres)
1960-64	18,002
1965-69	24,184
1970-74	28,085
1975-79	42,323
1980-84	59,543
1985-89	71,827

Average yields in 1990 were slightly less than the average yields over the past 17 years. The colour of the syrup made was darker overall than

in 1989, but the flavour was found, in most cases, to be very good. Ninety-five percent of the taps in Nova Scotia were connected to plastic tubing systems. Sap from the remaining 5 per cent of taps was collected in buckets.

LANDSCAPE/SOD/ORNAMENTALS

This year once again the industry slowed down with a slow start for the plant sales season, both at nurseries and garden centers. Although recovery took place with the arrival of warm weather, sod growing continued its expansion amid problems with germination, weed invasion and towards the end of the season a shortage of sod. Landscape construction and maintenance seemed to have lots of work in the early season, a very slack period during summer and a pick-up in the fall. Ornamental nurseries continued to develop, especially one at Berwick.

In all there was an advance of between 2 and 4 per cent for the season in industry value. Total value of the industry in Nova Scotia is estimated at $19,800,000. There are some 3,500 acres of commercial sod in production with about 1,500 acres cut in 1990. This production is estimated at $6,000,000.

The Rural Beautification Committee, consisting of industry and government representatives, continued their program of contests, grants and promotion of beautification in rural areas.

The attendance at the Annapolis Royal Historic gardens for 1990 was 25,632.

TREE FRUITS

Below average temperatures during December 1989 resulted in minor tree losses and damage to apple trees. Stone fruit trees and fruit buds were more adversely affected by these temperatures, and fluctuating temperatures in February and March, as stone fruit production was down by almost 50 per cent in 1990. The growing season, with the exception of cool wet weather during most of May, was well suited to tree fruit production. A total of 14 apple scab infection periods were recorded from May 1 to July 30 which was 10 fewer than the number recorded in 1989 for the same time period. Fruit maturity was advanced 2 to 3 days from normal due to the warm growing season. Warm temperatures continued into the fall which advanced fruit maturity more rapidly than normal. The warm temperatures and dry conditions did

increase the incidence of premature drop and are blamed for soft fruit coming out of cold and C.A. storage. Most growers did not experience problems in obtaining harvest labour.

The 1990 apple crop was estimated to be 3,300,000 bushels which would be up 22 per cent over 1989 production of 2,700,000 bushels. The pear crop was estimated at 50,000 bushels identical to that of 1989. Stone fruit production was placed at 3,500 bushels, down 46 per cent from the 6,500 bushels in 1989. The farm gate value of the 1989 apple crop was $8,610,000; however, stabilization payments totalling $1,470,000 plus $500,000 in federal/provincial assistance will increase the value to $10,586,000. The farm gate value for pears was $495,000 and plums $116,740. The total value of the 1989 tree fruit crop would be in excess of $11,191,740 which compares to a value of $12,621,900 for 1988.

A surplus of processing apples in the fall resulted in a significant volume of peeler and juice apples to be shipped to the USA, Ontario and Quebec. Prices for processing apples in the fall were similar to those of 1989. The price for juice apples; however, had increased to 8 cents per pound in February 1991 from 4.25 cents per pound. Fresh fruit prices in the fall started off similar to those received in 1989, however, fell by $1 to $2 per carton by early November. A small volume of Gravensteins were sold on the Toronto market as a result of a Nova Scotia Fruit Growers Association's promotion program. The NSFGA hopes to expand markets for Gravensteins in future years.

PEAR AND STONE FRUIT

The 1990 pear crop was estimated to be 50,000 bushels which would be identical to that of 1989. No significant winter damage to pear trees or fruit buds was observed and only slight fruit bud damage occurred as a result of frost on May 26th. A good bloom was observed in most orchards. However, wet cool weather during the early portion of the bloom period prevented a full crop set in many orchards. A warm dry growing season produced pears of good quality with soluble solid levels of 9–10 for Clapp's Favorite and 10–11.5 for Bartlett. As always fruit size was a concern at the start of harvest as fruit was in the small to medium size range. Pressure testing indicated that the harvesting of Clapp's Favorite could have begun on August 20 and Bartlett on September 7. These starting dates were similar to those of 1989 and are considered at the early end of the harvest period for these two cultivars. No major disease or insect problems were reported.

The bulk of the 1989 pear crop was sold as fresh fruit within the Atlantic region with a small volume of Clapp's Favorite placed on the Montreal Market. Cull pears in 1989 and 1990 were accepted by J.B. Foods for juice production. The pear juice was used to produce a pear Gravenstein drink, which was introduced for the first time in 1989. A price of $3.75 per cwt was offered for cull pears in both years. The average farm gate return for the 1989 pear crop was $9.90 per bushel which was up over the 1988 average of $8.31. The farm gate value for the total 1989 crop was $495,000. Wholesale to retail price quotations for September 28 indicate that returns for 1990 were up slightly over those of 1989. The quote for 4 x 4 L, Clapp's favorite was $10.03 – 10.69 which compares to a quote for $9.00 – 9.48 for the same period in 1989.

It is estimated that the 1990 plum crop will be down 46 percent from the previous year as a result of winter damage to fruit buds and trees and poor pollination due to wet cool weather during the bloom period. The 1990 plum crop was estimated to be 3,500 bushels which compares to 6,500 bushels for 1989. The majority of the decline in production occurred for Japanese type plums which are not as hardy as the European types. The average farm gate value for plums in 1989 was $17.96 per bushel, up significantly over the $12.54 per bushel return in 1988. The farm gate value of the total plum crop was $116,740 in 1989. The plum crop was sold as fresh fruit within the Atlantic region.

Peach and cherry production was also down significantly in 1990 due to the weather conditions.

APICULTURE

The beekeeping industry in Nova Scotia has remained optimistic even though parasitic mites are spreading with disastrous consequences all over North America. In fact, Nova Scotia beekeepers are exhibiting an outstanding degree of energy and support for the battle against mites and in the process are grasping opportunities to expand and diversify the industry. At present, Nova Scotia beekeepers and the Nova Scotia Government have been more proactive and successful in these matters than most other provinces in Canada and this has, at least temporarily, promoted stability and opportunity.

Nova Scotia Beekeeping Statistics, 1990

	1990[1]	10-yr. avg.
Est. total no. beekeepers	380	562
No. registered beekeepers	327	–
No. colonies	6200	6108
Avg. no. col/beekeeper	16.3	11.3
Honey yield/col (kg)	35.0	32.2
Total honey production (kg x 1000)	217.0	195.1
Value of honey crop ($ x 1000)	651.0	–
Value of industry (honey, wax, pollen, pollination services x $1000)	884.0	–[2]
No. col. wintered 90–91	6000	5140[3]
No. apiaries in prov.	800	706[4]

(1) Subject to revision

(2) 2-yr avg

(3) 3-yr avg

(4) Est. in 1989

APPLE MAGGOT CONTROL

No tree removals were done in 1990 by the Apple Maggot Control Board. However, a number of older blocks were removed by the growers which included a few blocks which have been problems in the past.

The Annual Fall Survey was carried out in co-operation with the Food Production and Inspection Branch of Agriculture Canada during August and September. The survey took five weeks to complete with 10 inspectors; 6 inspectors were employed by the board and 4 inspectors were employed by Agriculture Canada. During this time 1,014 inspections were completed: 633 commercial blocks and 381 contacts. The infestation rate of commercial blocks was 34.6 per cent which was slightly higher than the previous year (1989—32.7 per cent). Infestation in contact orchards was 56.2 per cent which was once again higher than previous years.

The level of apple maggot infestation has risen in the past two years. The rate of infestation for 1990 was 34.6 per cent, which is slightly higher than last year. The upper trend in 1989 and 1990 may be temporary and possibly attributed to one or all of the following factors: depressed prices in previous years; growers may have reduced their

spray schedules for economic reasons; or ideal conditions for apple maggot flies in August and September.

LAND EVALUATION AND PLANNING SERVICE

The LEAPS program continued its growth and development in 1990, with the addition of eight new farms bringing the enrollment total to over 60 farms across the province. Many Section activities and initiatives in 1990 reflect the tasks associated with incorporation of the GIS computer into the LEAPS program, and the adaptation of existing services to the new technology.

Phase I, the soil survey phase of the Land Evaluation and Planning Service (LEAPS), surveyed approximately 822 hectares (2,031 a) of land in 1990. In addition, the LEAPS program offered an "update-survey" service for the first time last year. This service allows farms already enrolled in the Service to have additional lands, purchased or rented since their original survey, added to the LEAPS data base for a nominal charge. Seven farms requested update-surveys in 1990 covering a total of 235 hectares (581 a).

In addition to the farm surveys, Section staff also surveyed approximately 85 hectares (210 a) of land around the Liverpool Airport for the Liverpool Queens Development Commission.

Phase II, the interpretation and recommendation component of LEAPS, continued its service to client farmers producing recommendations for the 11 farms surveyed in 1989, and meeting with the 1990 client farmers in order to determine their Phase II requirements. In total, 51 fertilizer and lime recommendations, 10 drainage strategies, 9 deep tillage strategies, 6 land clearing strategies, 8 dairy herd feed requirement calculations, and 10 crop rotation plans were delivered in 1990. Recommendations were delivered in both a co-ordinated report with appendices of relevant government publications and in map format.

The LEAPS program has provided farmers with high quality land management tools including field boundary maps and soil maps. In addition, the service has spawned the development of numerous recommendation and interpretation products based on the resource inventory. These interpretive products have significantly enhanced the consistency, scope and timeliness of recommendation provided to farmers enroled in the LEAPS program. Furthermore, these advances provide potential spin-off benefit for non-LEAPS farmers within the province.

WEED SCIENCE SERVICES

Weed Control

Extremely wet weather during April and May delayed the planting of most horticultural and field crops. June brought a complete turn-around with generally hot, dry weather persisting into early fall. Overall, acceptable weed control was experienced in most crops in 1990. Herbicide performed adequately except where lack of rainfall, after application, prevented activation of preemergence treatments. Weed control was augmented by the dry weather in some situations. Dry weather, following planting, inhibited the germination of many weed species; whereas, deep-seeded crops found enough moisture to germinate and emerge. When rain finally arrived in sufficient quantity to germinate weed seeds, the crop canopies were often far enough advanced to suppress the weed seedlings.

Weed Control Act

This legislation has supported the control of many weeds that are detrimental to food production in Nova Scotia. The legislation is designed mainly to protect agricultural lands but also provides legislation whereby poisonous weeds are subject to strict control measures.

Total costs for this year amounted to approximately $130,000. This includes assistance for municipal weed control staff as well as costs involved under weed control along riverbanks.

Two meetings of the weed inspectors were held this year; one the last week of April and one in the fall when inspectors reported on their work for the year. During the spring meeting, inspectors were updated on regulations, safety, application techniques, weed identification, control methods, etc. The fall meeting provided the opportunity for each inspector to relate the activities of the year.

Municipal weed inspectors continue to cooperate with Agriculture Canada and NSAC scientists on biological control of poisonous pasture weeds using insects and plant pathogens.